

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of      Hidefumi TAKAYA, et al.  
Group Art Unit           :      (Unassigned)  
Application No.           :      (Natl. Phase of **PCT/JP2004/015179**)  
Examiner                 :      (Unassigned)  
Filed                     :      (Herewith)  
Docket No.               :      **13596/3**  
For                        :      **INSULATED GATE TYPE SEMICONDUCTOR DEVICE  
AND MANUFACTURING METHOD THEREOF**

INFORMATION DISCLOSURE STATEMENT

COMMISSIONER FOR PATENTS

Customer Service Window  
Randolph Bldg.  
401 Dulany Street  
Alexandria, VA 22314

Sir:

Pursuant to 37 CFR § 1.56, the attention of the Patent and Trademark Office is hereby directed to the reference(s) listed on the attached PTO-1449. Unless otherwise indicated herein, one copy of each reference is attached. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the reference(s) be made of record therein and appear among the "References Cited" on any patent to issue therefrom. The filing of this Information Disclosure Statement and the enclosed PTO Form No. 1449, shall not be construed as an admission that the information cited is prior art, or is considered to be material to patentability as defined in 37 C.F.R. § 1.56(b). The paragraphs marked below are applicable. It is believed that no fees other than those indicated below are due, but authorization is hereby given to charge any additional fees due, or to credit any overpayment, to deposit account 11-0600.

- ☒ 1. This Information Disclosure Statement is being filed (a) within three months of the filing date of a national application other than a continued prosecution application under 37 C.F.R. §1.53(d), (b) within three months of the date of entry of the national stage as set forth in 37 C.F.R. § 1.491 in an international application, (c) before the mailing date of a first Office Action on the merits in the present application, OR (d) before the mailing of a first office action after filing of a request for continued examination. No certification or fee is required.

☐ 2. This Information Disclosure Statement is being filed more than three months after the U.S. filing date AND after the mailing date of the first Office Action on the merits, but before the mailing date of a final action, Notice of Allowance, or any action that otherwise closes prosecution.

☐ a. I hereby certify that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 CFR §1.97(e)(1).

☐ b. I hereby certify that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, no item of information contained in the Information Disclosure Statement was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 CFR §1.97(e)(2).

☐ c. Please debit Deposit Account No. 11-0600 in the amount of \$180.00 in payment of the fee under 37 CFR §1.17(p) to ensure consideration of the disclosed information. Two duplicate copies of this paper are attached. 37 CFR §1.97(c)(2).

☐ 3. This Information Disclosure Statement is being filed after the mailing date of a final action, Notice of Allowance or an action that otherwise closes prosecution, but before payment of the Issue Fee. Applicant(s) hereby request(s) that the Information Disclosure Statement be considered. Please debit Deposit Account No. 11-0600 in the amount of \$180.00 in payment of the petition fee under 37 CFR §1.17(p) to ensure consideration of the disclosed information. Two duplicate copies of this paper are attached.

☐ a. I hereby certify that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 CFR §1.97(e)(1).

☐ b. I hereby certify that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, no item contained in the Information Disclosure Statement was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 CFR §1.97(e)(2).

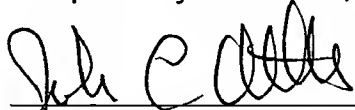
☐ 4. Relevance of the non-English language reference(s) is discussed in the present specification.

☐ 5. The reference(s) was/were cited in a counterpart foreign application. An English language version of the foreign search report is attached for the Examiner's information.

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- ☐ 6. A concise explanation of the relevance of the non-English language reference(s) appears in the Appendix attached hereto.
- ☐ 7. The Examiner's attention is directed to co-pending U.S. Patent Application No. \_\_\_\_\_, filed \_\_\_\_\_, which is directed to related technical subject matter. The identification of this U.S. Patent Application is not to be construed as a waiver of secrecy as to that application now or upon issuance of the present application as a patent. The Examiner is respectfully requested to consider the cited application and the art cited therein during examination of the present application.
- ☐ 8. This application is one of a series of related applications, identified in the attached Appendix, which are directed to related technical subject matter. The identification of those U.S. Patent Applications is not to be construed as a waiver of secrecy as to those applications now or upon issuance of the present application as a patent. The Examiner is respectfully requested to consider the cited applications and the art cited therein during the examination.
- ☐ 9. The reference(s) was/were cited by or submitted to the Office in parent application No. \_\_\_\_\_ filed \_\_\_\_\_, which is relied upon for an earlier filing date under 35 U.S.C. §120. However, since the IDS filed with the parent application was not considered, copies of the non-patent articles are enclosed.
- ☒ 10. English-language Abstracts are attached to the non-English language references.
- ☒ 11. No copies of U.S. patents are required.
- ☒ 12. Other: Four of the references were cited in the International Search Report.

Respectfully submitted,

  
John C. Altmiller  
Reg. No. 25,951

Date: 28 March 2006

KENYON & KENYON LLP  
1500 K Street, N.W.  
Washington, D.C. 20005

Telephone: (202) 220-4200  
Facsimile: (202) 220-4201

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1 of 2

**Complete if Known**

Application Number	(Natl. Phase of PCT/JP04/15179)
Filing Date	Herewith
First Named Inventor	Hidefumi TAKAYA
Art Unit	(Unassigned)
Examiner Name	(Unassigned)
Attorney Docket Number	13596/3

**U.S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code <sup>2</sup> (if known)			
/TQ/	1	US-6,194,741 B1	02/27/01	KINZER et al.	
	2	US-2003/0160281 A1	08/28/03	CHEN	
	3	US-5,282,018	01/25/94	HIRAKI et al.	= JP 4251983
	4	US-6,037,632	03/24/00	OMURA et al.	= JP9191109
	5	US-6,342,709 B1	01/29/02	SUGAWARA et al.	= JP 10098188
	6	US-6,198,127 B1	03/06/01	KOCON	= JP 2000-353805
	7	US-6,433,385 B1	08/13/02	KOCON et al.	= JP 2000-353805
	8	US-6,673,681 B2	01/06/04	KOCON et al.	= JP 2000-353805
	9	US-2001/0000919 A1	05/10/01	KOCON	= JP 2000-353805
	10	US-6,498,368 B2	12/24/02	SAKAMOTO et al.	= JP 2001-168327
	11	US-6,465,844 B2	10/15/02	SAITO et al.	= JP 2002-100772

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> - Number <sup>4</sup> - Kind Code <sup>5</sup> (if known)				
/TQ/	1	WO 00/70654	11/23/00	INFINEON TECHN. AG		
	2	WO 99/52152	10/14/99	HITACHI, LTD.		ABS
	3	JP 4-251983	09/08/92	TOSHIBA CORP	= US 5,282,018	ABS
	4	JP 5-082792	04/02/93	TOSHIBA CORP		ABS
	5	JP 05-335582	12/17/93	OMRON CORP		ABS
	6	JP 06-013621	01/21/94	MITSUBISHI ELECTRIC CORP		ABS
	7	JP 07-083118	09/06/95	MITSUBISHI ELECTRIC CORP.	= EP 0 345 380	ABS
	8	EP 0 345 380 A2	12/13/89	MITSUBISHI DENKI KK	= JP 07 083118	ABS
	9	JP 09-191109	07/22/97	TOSHIBA CORP	= US 5,037,632	ABS
	10	JP 10-098188	04/14/98	KANSAI ELECTRIC POWER CO INC et al.	= US 6,342,709	ABS
	11	JP 11-068102	03/09/99	TOSHIBA CORP		ABS
	12	JP 2000-216381 A	08/04/00	NISSAN MOTOR CO LTD		ABS
	13	JP 2000-260984 A	09/22/00	TOSHIBA CORP		ABS
	14	JP 2000-353805 A	12/19/00	INTERFIL CORP	= US 6,198,127 B1	ABS
	15	JP 2001-015744A	01/19/01	TOSHIBA CORP		ABS
	16	JP 2001-168327 A	06/22/01	HITACHI LTD	= US 6,498,368 B2	ABS
	17	JP 2001-267570 A	09/28/01	MITSUBISHI ELECTRIC CORP		ABS
	18	JP 2002-100772 A	04/05/02	TOKYO SHIBAURA ELECTRIC CO	= US 6,465,844 B2	ABS

Examiner Signature

/Tuan Quach/

Date Considered

06/18/2006

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet	2	of	2
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**Complete if Known**

Application Number	(Natl. Phase of PCT/JP04/15179)
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Filing Date	(Here enter) 10/15/2015
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First Named Inventor	Hidefumi YAKATA
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Art Unit	(Unassigned)
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Examiner Name	(Unassigned)
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Attorney Docket Number	13596/3
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### NON PATENT LITERATURE DOCUMENTS

Examiner  
Initials \*Cite  
No.<sup>1</sup>

Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.

**T<sup>2</sup>**

/TQ/

1

Saito, et al.: *The Papers of Joint Technical Meeting on Electron Devices and Semiconductor Power Converter*, IEE Japan, 11/28/02

**Examiner  
Signature**

/Tuan Quach/

Date  
Considered

06/18/2008

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1. Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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